

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the Matter of

Unlicensed Operation in the TV Broadcast Bands

ET Docket No. 04-186

**COMMENTS OF THE WHITE SPACES COALITION ON THE
OET DTV INTERFERENCE REJECTION MEASUREMENT REPORT**

Dell Inc., EarthLink, Inc., Google, Inc., the Hewlett-Packard Company, Intel Corp., Microsoft Corp., Philips Electronics North America Corp., and Samsung Electro-Mechanics Co., Ltd. (collectively the “Coalition”) commend the FCC Office of Engineering and Technology for its thorough and timely analysis of the interference rejection capabilities of digital television receivers.¹ The Report provides further evidence that, with careful planning, the Commission’s goal of allowing “new and innovative types of devices and services” in the television white spaces is readily attainable.² While the Coalition believes that the Report speaks for itself in this regard, the Coalition would take this opportunity to make several brief observations.

First, the Report generally corroborates the feasibility of low power portable unlicensed devices such as those proposed by the Coalition, which would transmit at a

¹ See generally Stephen R. Martin, Interference Rejection Thresholds of Consumer Digital Television Receivers Available in 2005 and 2006, FCC/OET 07-TR-1003 (Mar. 30, 2007), available at http://www.fcc.gov/oet/info/documents/reports/DTV_Interference_Rejection_Thresholds-03-30-07.pdf. (“Report”).

² See *Unlicensed Operation in the TV Broadcast Bands; Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, First Report and Order and Further Notice of Proposed Rule Making, 21 FCC Rcd. 12266 (¶1) (2006).

maximum power of 20 dBm, and in most cases at much lower power levels.³ Indeed, OET's extensive analysis demonstrates that other over-the-air broadcast DTV signals present a greater risk of harmful interference to DTV receivers than would low-power white space devices using appropriate operating parameters. In the vast majority of cases, if a DTV receiver is capable of rejecting interference from other DTV broadcasts, it will not suffer interference from personal/portable white space devices.

In addition, OET's findings do not support the MSTV/NAB contention that geo-location is a necessary adjunct to spectrum sensing.⁴ Rather, the Report explains that even if a white space device had access to complete, accurate information regarding its location, there still would be no way for it to know the desired and undesired signal field strengths at a victim DTV receiver without knowing the gain, height, and placement of its antenna as well as the placement of the white space device relative to the DTV receiver.⁵ As the Coalition has stated throughout this proceeding, white space operations using conservative spectrum sensing and transmission parameters -- including a detection threshold that is 30 dB below a DTV receiver's threshold of visibility and characterized by low power operation -- will provide broadcasters with the interference protection to which they are entitled without requiring geo-location.

Finally, as promising as the OET results are, there is reason to believe that the performance of DTV receivers will be even better by the time that white space devices

³ See Comments of Dell, Inc., Google, Inc., the Hewlett-Packard Company, Intel Corp., Microsoft Corp., and Philips Electronics North America Corp. (filed Jan. 31, 2007) at 12-14; Reply Comments of Dell, Inc., Google, Inc., the Hewlett-Packard Company, Intel Corp., Microsoft Corp., and Philips Electronics North America Corp. (filed March 2, 2007) at 8-10.

⁴ See, e.g., Joint Comments of the Association for Maximum Service Television, Inc. and the National Association of Broadcasters (filed Jan. 31, 2007) at 33-34.

⁵ Report at 2-7.

would first be allowed to operate. The receivers tested by OET already are one to two generations behind the current state of the art, which can be expected to improve even further in the two years leading up to the DTV transition deadline. Among other things, manufacturers presumably will increasingly rely on modern semiconductor tuners, which have the potential for greater interference rejection than the decades-old tuner designs they will replace.

In short, the OET results indicate that the Coalition's general implementation approach will provide broadcasters with the interference protection to which they are entitled.

The Commission should be concerned, however, that none of the receivers tested by OET lives up to the standards of the "Grand Alliance" prototype DTV receiver, which the Commission relied on to establish the current DTV channel allocation and interference protection criteria. As OET observes, this discrepancy may be due to failure to employ a double-conversion tuner, as well as "other design differences" between the Grand Alliance prototype and commercially available receivers.⁶ In fact, none of the tested receivers even fully complied with the ATSC recommended guidelines for interference rejection performance, despite the fact that these guidelines are less demanding than the performance assumptions established by the Grand Alliance prototype.⁷ Although the Coalition's proposed approach protects these TV receivers, broadcasters simply should not be heard to demand protection from interference that occurs only in connection with receivers whose interference rejection performance falls far short of the Grand Alliance prototype (to say nothing of published industry

⁶ *Id.* at 1-1, 1-2.

⁷ *Id.* at xi.

performance standards) since the rules that define the scope of interference protection afforded to broadcasters are based on the Grand Alliance prototype.⁸

* * *

The OET DTV interference rejection measurement report represents a significant step toward realizing the Commission's goal of promoting more effective and efficient use of the television spectrum. The Coalition applauds OET for its thorough analysis of DTV interference rejection capabilities, which provides further support that the operating parameters proposed by the Coalition will protect incumbent licensees while at the same time enabling many of the new and innovative white space devices and services contemplated by the Commission.

Respectfully submitted,



Scott Blake Harris
Edmond J. Thomas*
S. Roberts Carter III

HARRIS, WILTSHIRE & GRANNIS LLP
1200 Eighteenth Street, NW
Washington, DC 20036
(202) 730-1300

April 30, 2007

⁸ See *id.* at 1-1.

* Senior Technology Policy Advisor